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Attorney Docket No. 28951.3083

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of

K. KAWASAKI

Patent No.: 6,843,904

Issue Date: January 18, 2005

Title: INSPECTION AND REPAIR OF ACTIVE TYPE SUBSTRATE

Certificate
APR 27 2006
of Correction

REQUEST FOR A SUPERSEDE CERTIFICATE OF CORRECTION

Commissioner of Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

ATTN: Certificate of Correction Branch

Sir:

It is respectfully requested that a Supersede Certificate of Correction be issued to correct the Certificate of Correction issued June 14, 2005, as shown in red on the attached copy. Attached is Certificate of Correction Form PTO/SB/44 which has been completed according to the Notice in 862 O.G. 2.

Respectfully submitted,

STEPTOE & JOHNSON LLP

Roger W. Parkhurst
Registration No. 25,177

STEPTOE & JOHNSON LLP
1330 Connecticut Avenue, NW
Washington, DC 20036-1795
Tel: (202) 429-6420

MAY 01 2006

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,843,904 B1
DATED : January 18, 2005
INVENTOR(S) : Kiyohiro Kawasaki

Page 1 of 1

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 25,

Line 14, change "plates." to -- plate. --.

Line ~~11~~, change "solutions." to -- solution. --.

Lines ~~12-13~~, change "substrates." to -- substrate. --.

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26-27



Signed and Sealed this

Fourteenth Day of June, 2005

JON W. DUDAS
Director of the United States Patent and Trademark Office

MAY 01 2006

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insulating substrate or slightly larger than an image displaying section on an active substrate formed on an insulating substrate;

a reversed polarity electrode plate for applying an electric charge to the chemical solution, the electric charge having polarity opposite to an electric charge of said electrode;

chemical solution supplying and discharging means for supplying and discharging the chemical solution to and from an insulating substrate; and

means for detecting at least one pinhole in said insulating layer comprising means for measuring the value of a current flowing between said electrode and said

plate - reversed polarity electrode plates

2. An in-substrate selective electrochemical treatment system according to claim 1,

wherein the reversed polarity electrode plate comprises a double-purpose reversed polarity electrode plate having a specified size and shape smaller than an insulating substrate slightly larger than the image displaying section of an active substrate formed on an insulating substrate, the double-purpose reversed polarity electrode plate also comprising the chemical solution confining means for confining the chemical solution in a gap obtained by locating the double-purpose reversed polarity electrode plate close to an insulating substrate

substrate -

3. An in-substrate selective electrochemical treatment system according to claim 2, further comprising electrode plate temperature controlling means for controlling the temperature of the reversed polarity electrode plate by flowing temperature-controlling liquid within the reversed polarity electrode plate.

4. An in-substrate selective electrochemical treatment system according to claim 1,

wherein the reversed polarity electrode plate is a double-purpose reversed polarity electrode plate, which is smaller than an insulating substrate, or slightly larger than the image displaying section of an active substrate formed on an insulating substrate, and which also comprises the chemical solution confining means further comprising a porous soft material plate having a surface facing an insulating substrate and impregnated with the chemical solutions

solution -

5. An in-substrate selective electrochemical treatment system according to claim 1,

wherein the reversed polarity electrode plate has a specified size and shape smaller than an insulating substrate or slightly larger than the image displaying section of an active substrate formed on an insulating substrate; and

wherein the chemical solution confining means comprises a frame-shaped container chemical solution confining means which has, at upper and lower ends thereof, an opening slightly larger than the reversed polarity electrode plate having the specified size and shape and comprises a frame-shaped container in which a flexible sealing material is attached to an area around the opening at the lower end;

the treatment system further comprising pressing means for pressing the frame-shaped container chemical solution confining means against an insulating substrate, with the reverse polarity electrode plate being located within the frame-shaped container chemical solution confining means.

6. An in-substrate selective electrochemical treatment system according to claim 5, further comprising washing

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means for washing, with a washing liquid, the chemical solution away from a chemical solution treatment space after completion of inspection, the chemical solution treatment space comprising the frame-shaped container chemical solution confining means pressed against an insulating substrate.

7. An in-substrate selective electrochemical treatment system according to claim 5, further comprising:

chemical solution circulating means for circulating the chemical solution within the chemical solution treatment space defined by the frame-shaped container chemical solution confining means or the frame-shaped container chemical solution confining means pressed against an insulating substrate; and

chemical solution temperature controlling means for controlling the temperature of the chemical solution.

8. An in-substrate selective electric chemical treatment system according to claim 1,

wherein the chemical solution confining means is a frame-shaped container chemical solution confining means for retaining the reversed polarity electrode plate therein and comprises a frame-shaped container having a flexible sealing material embedded in an open end thereof that is smaller than an insulating substrate slightly larger than the image displaying section of an active substrate formed on an insulating substrate;

the treatment system further comprising pressing means for pressing the frame-shaped container chemical solution confining means against an insulating substrate through the sealing member.

9. An in-substrate selective electrochemical treatment system according to claim 8, further comprising fluid supply and discharge means for supplying and discharging at least one of a chemical solution, washing liquid and drying gas to and from the frame-shaped container.

10. An electrochemical treatment process for treating a substrate by use of an in-substrate selective electrochemical treatment system for finding and repairing pinholes of an active substrate, comprising holding means for holding an insulating substrate; an electrode for connection at a periphery of an insulating substrate being held by the holding means, to a conductive pattern located on such an insulating substrate, said electrode being covered with an insulating layer; chemical solution confining means for confining a chemical solution to only a specified region, the specified region being smaller than an insulating substrate or slightly larger than an image displaying section on an active substrate formed on an insulating substrate; a reversed polarity electrode plate for applying an electric charge to the chemical solution, the electric charge having polarity opposite to an electric charge of said electrode; and chemical solution supplying and discharging means for supplying and discharging the chemical solution to and from an insulating substrate, the treatment process comprising:

holding an insulating substrate having a conductive pattern on the holding means;

supplying a predetermined amount of a specified chemical solution to a specified region on an insulating substrate and confining the solution to the specified region;

locating the reversed polarity electrode plate close to an insulating substrate such that the reversed polarity electrode plate comes in contact with the chemical solution which is on an upper surface of an insulating substrate;

bringing the electrode into contact with a conductive pattern in the periphery of an insulating substrate;

applying a specified direct current between said electrode and said reversed polarity electrode plate; and

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

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PATENT NO. : 6,843,904 B1

APPLICATION NO.: 09/868,577

ISSUE DATE : January 18, 2005

INVENTOR(S) : Kiyohiro KAWASAKI

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 25,

Line 14, change "plates" to --plate--.

Lines 26-27, change "substrates" to --substrate--.

Line 44, change "solutions" to --solution--.

MAILING ADDRESS OF SENDER (Please do not use customer number below):

STEPTOE & JOHNSON LLP
1330 Connecticut Ave., NW
Washington, DC 20036

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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